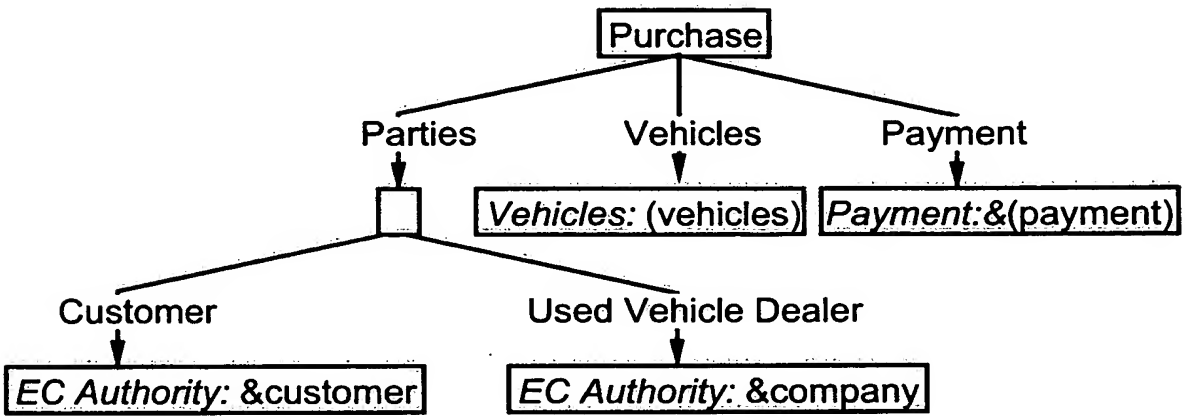
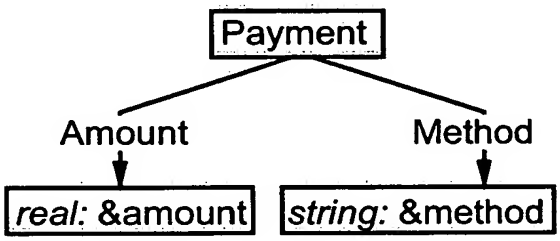
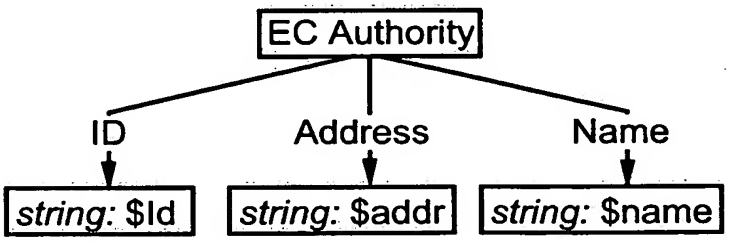


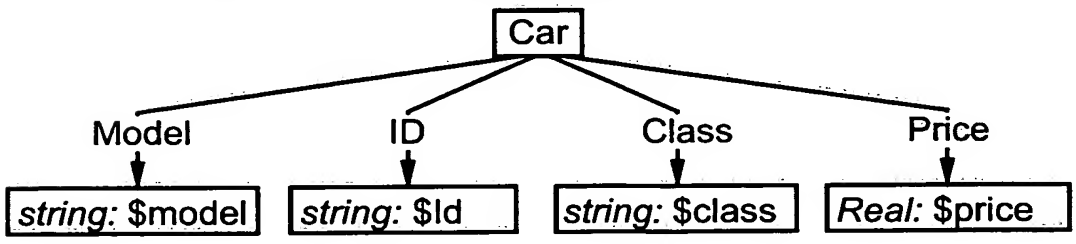
a) The Purchase Contract Class



b) The payment class

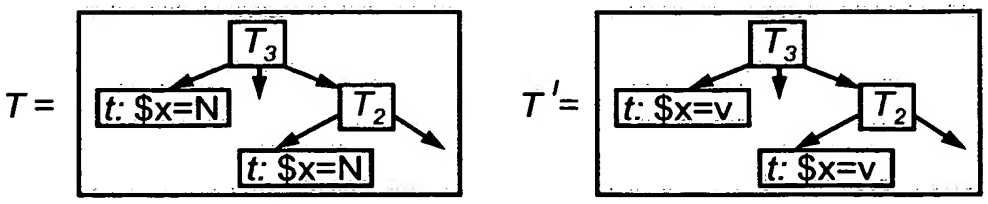


c) The EC Authority class

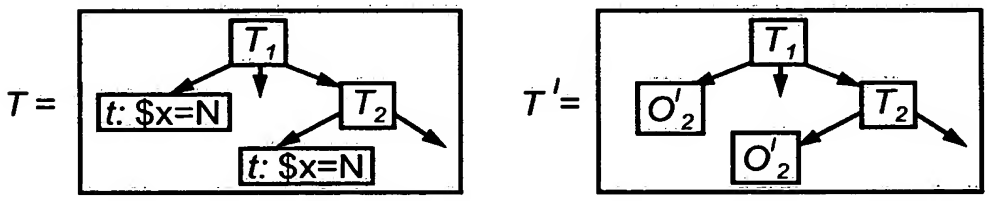


d) The Car Class

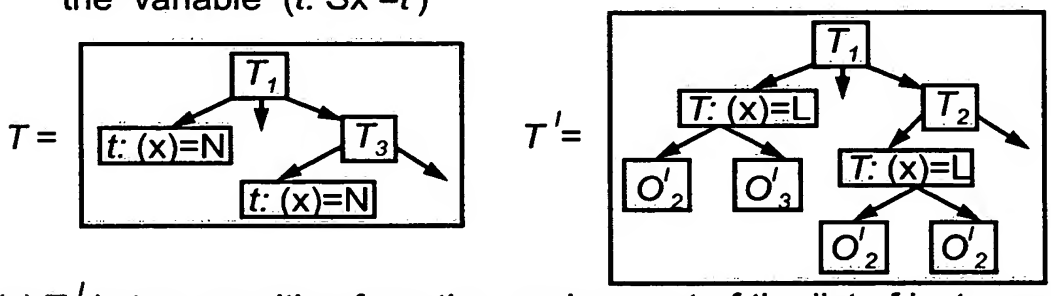
Fig. 1 ~~Examples of classes~~



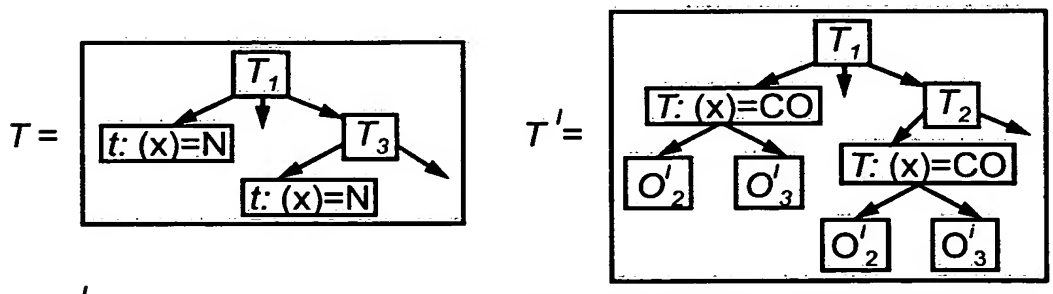
(a) T ' is tree resulting from the assignment of the atomic value v to atomic variable Sx in *T*



(b) *T'* is tree resulting from the assignment of the instance O'_2 of type t' to the class variable *Sx* in T_1. In *T'* the root of O'_2 is labeled with the variable (*t:* Sx =t')

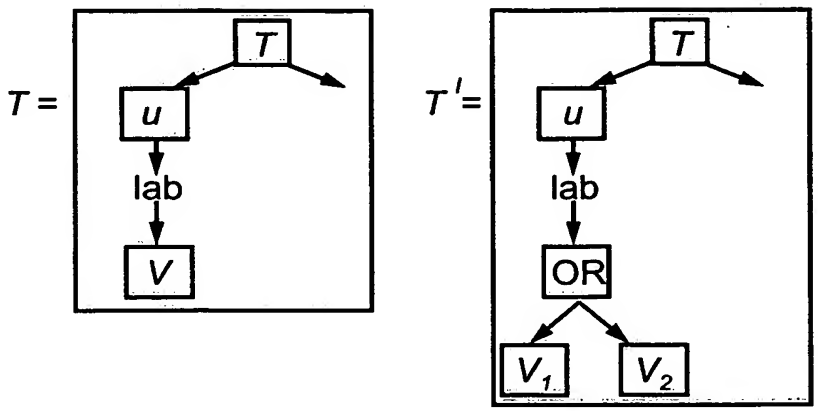


(c) T ' is tree resulting from the assignment of the list of instances (O'_2, O'_3)to the class list variable(x) in *T*.

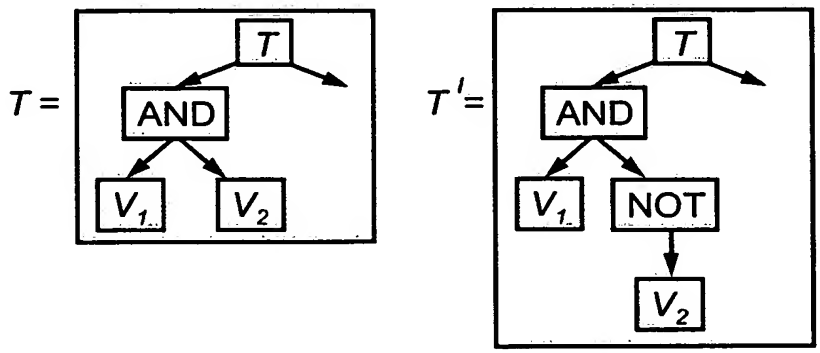


(d) *T'* is tree resulting from the definition of the list containment constraint (x) (O'_2, O'_2) in *T*.

Fig. 2 ~~Variable instantiations~~



(a) T' is the result of adding an OR vertex to T - Note that V_1 and V_2 must be isomorphic to V up to renaming of variables. Adding an AND vertex is done in a similar way.



(b) T' is the result of adding a NOT vertex to T - Note that NOT vertices can be added only subtrees rooted at an AND vertex

Fig. 3 ~~Adding operator vertices~~

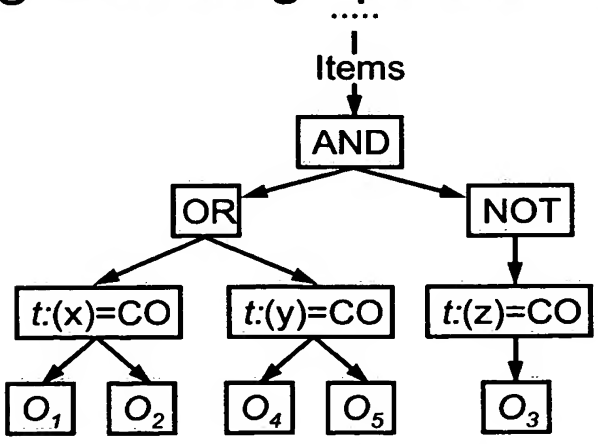


Fig. 4 ~~Using operator vertices~~

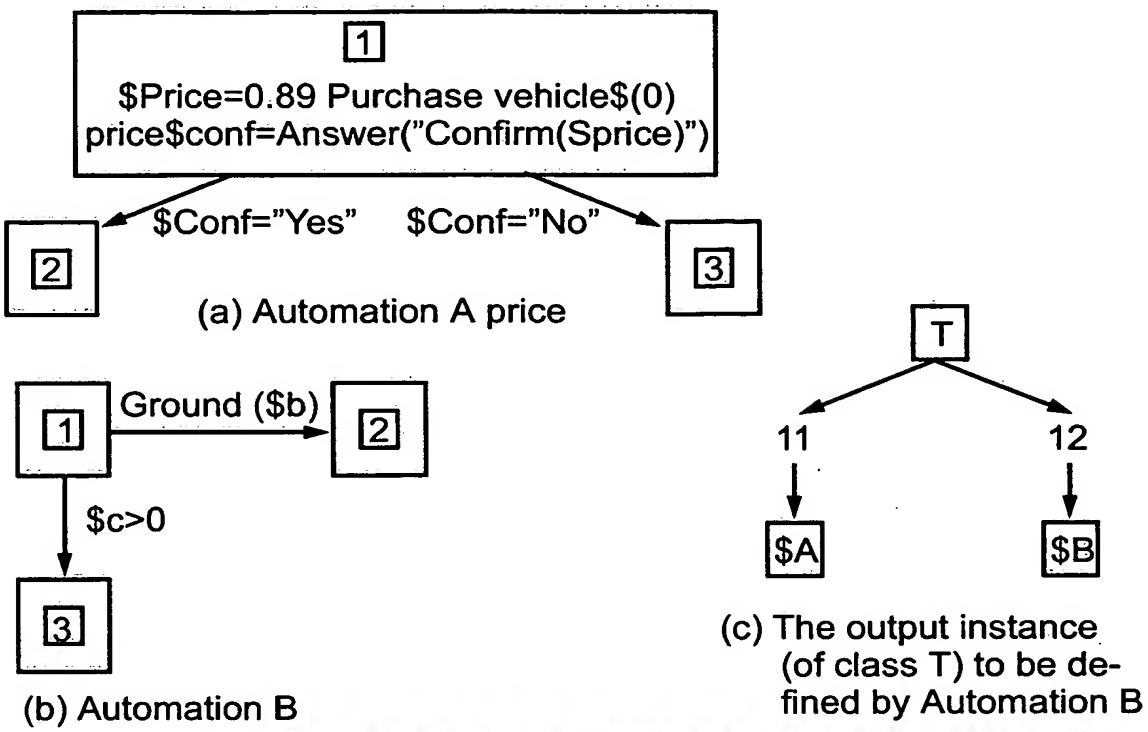


Fig. 5 ~~Commerce automata-The final states have double frames~~

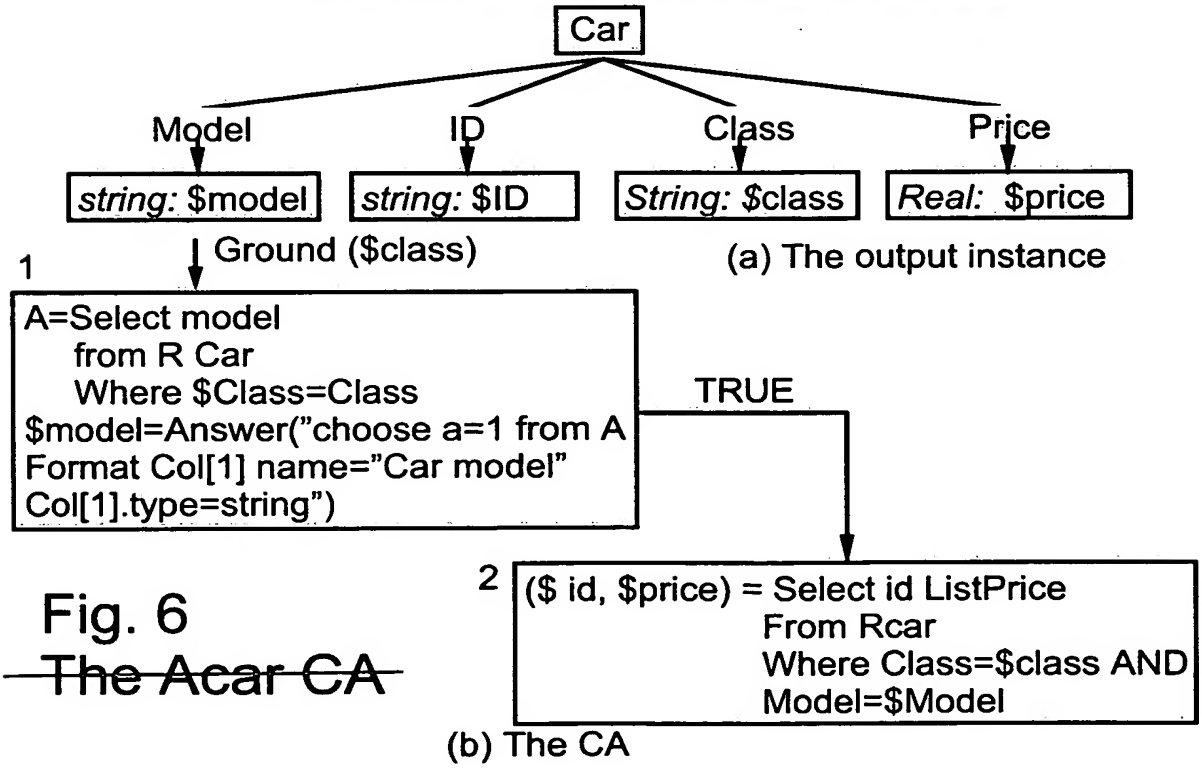


Fig. 6 ~~The Acar CA~~

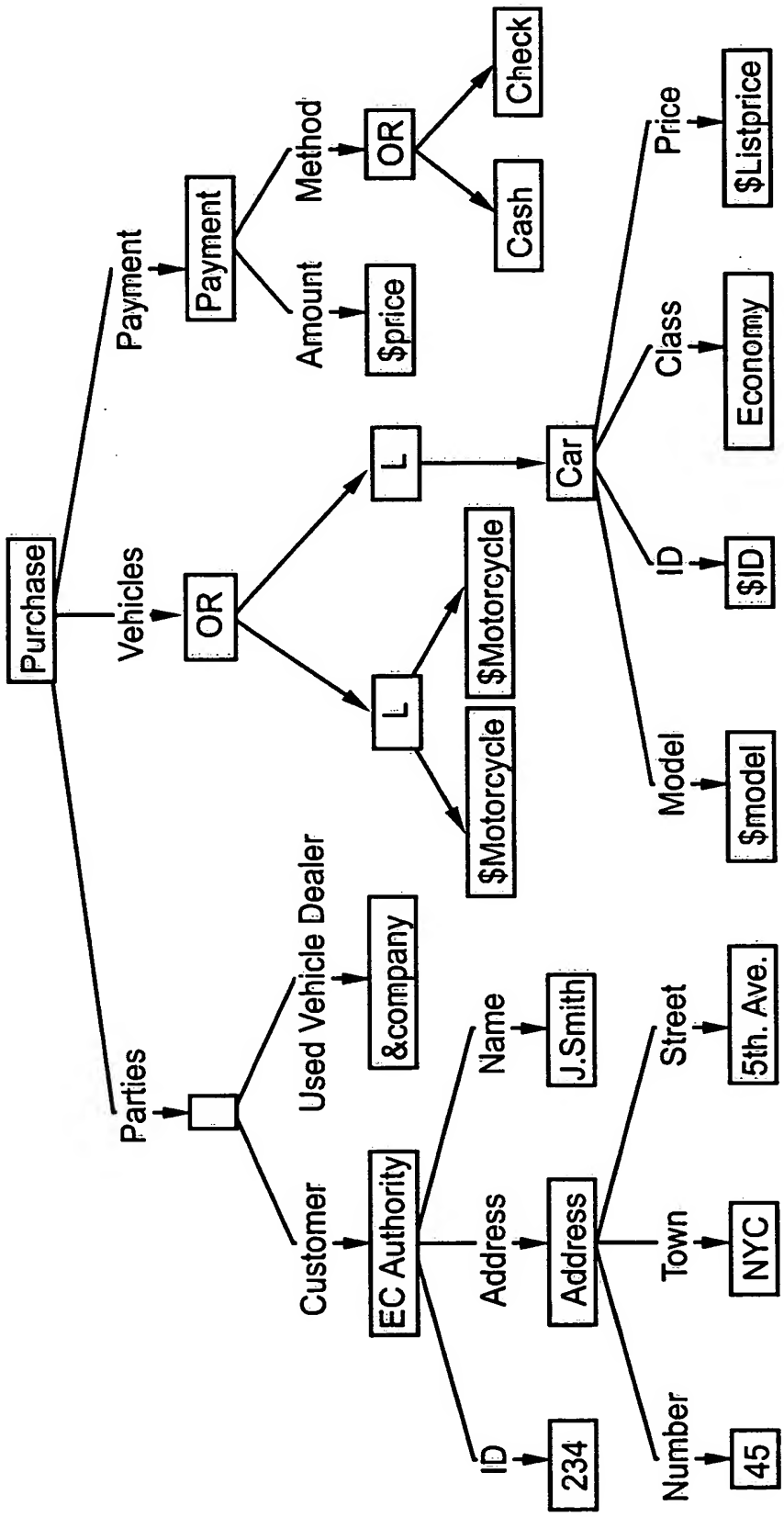


Fig. 7 The customer's intention tree

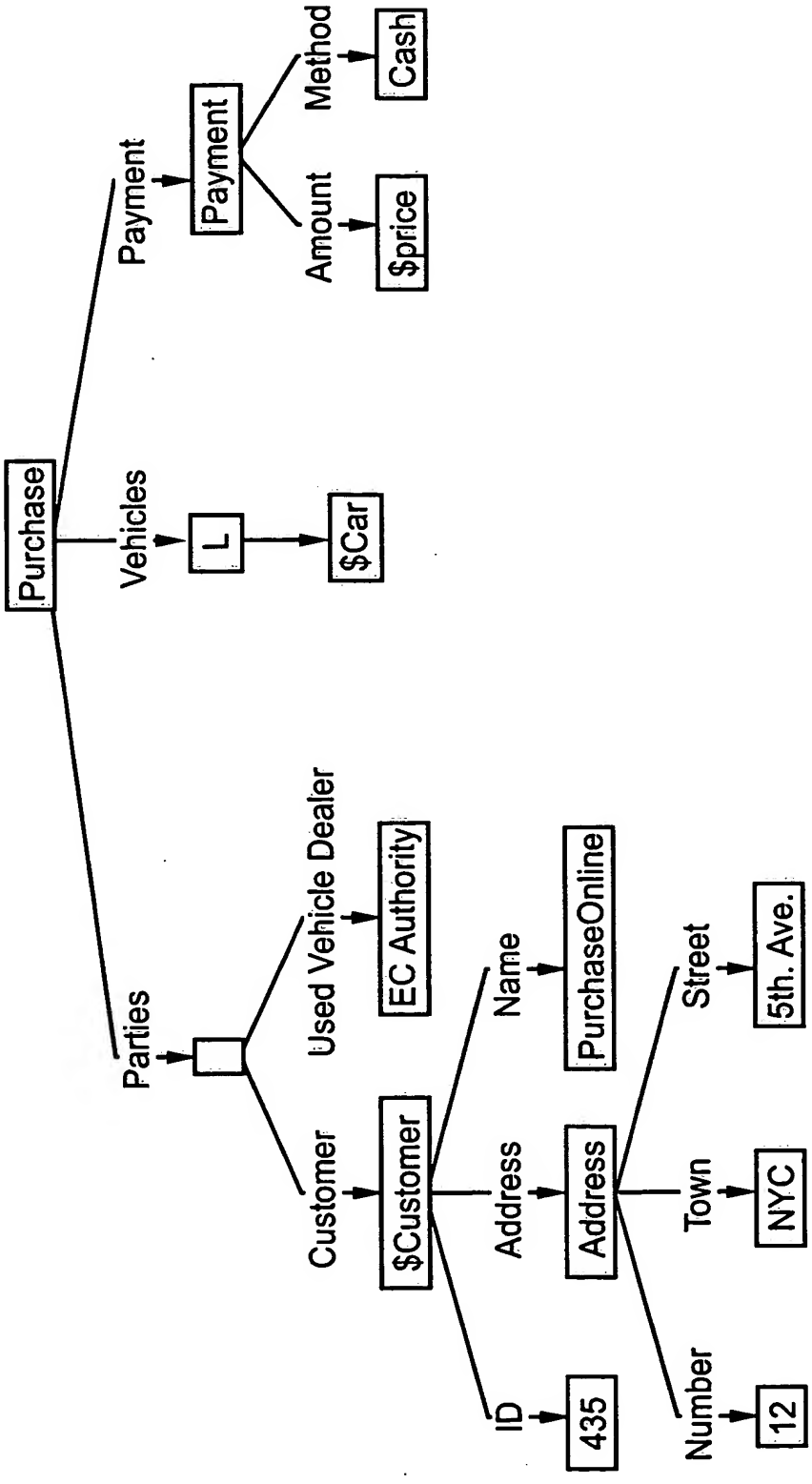


Fig. 8 The used car dealer's intention tree

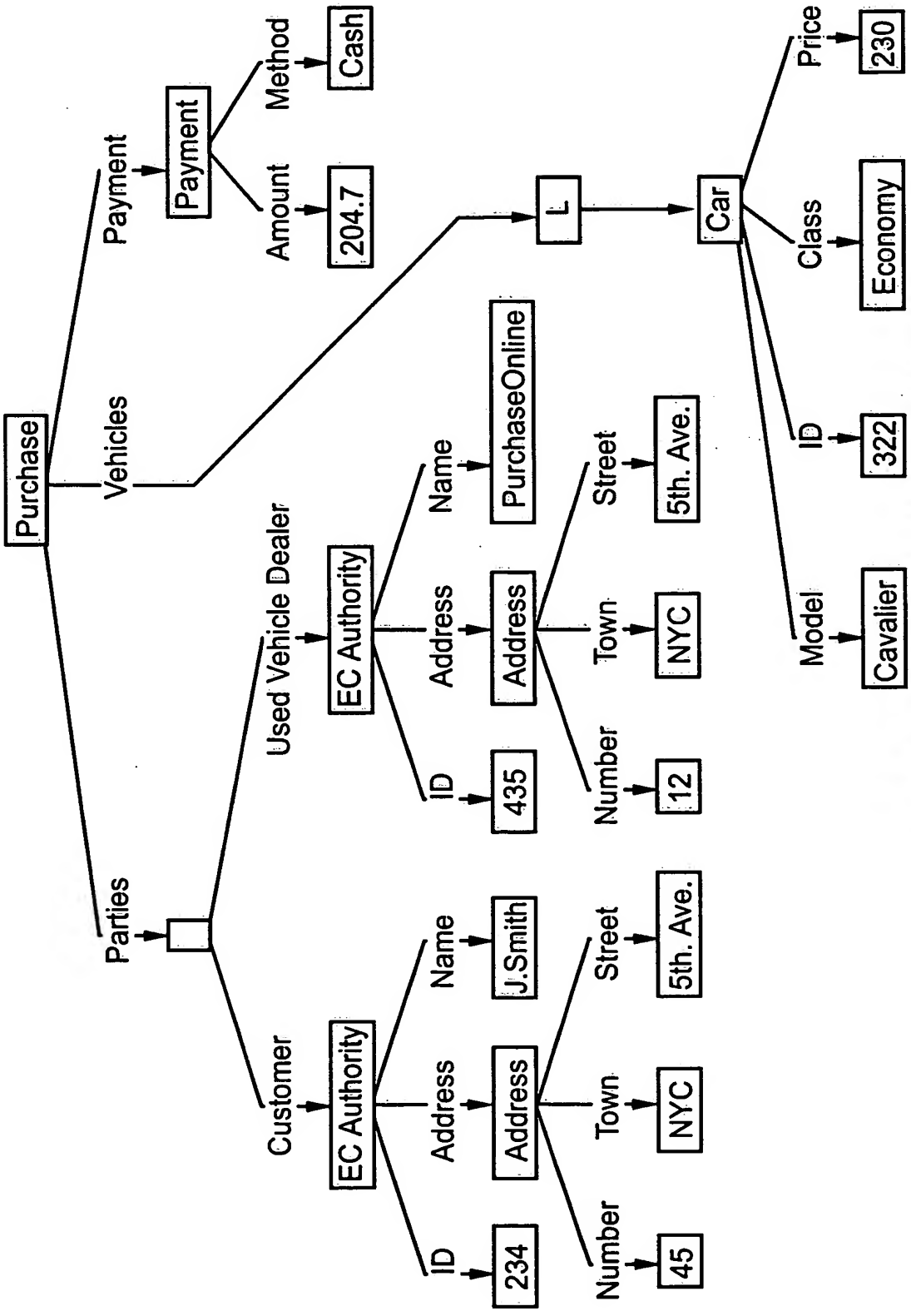


Fig. 9 The generated Econtract

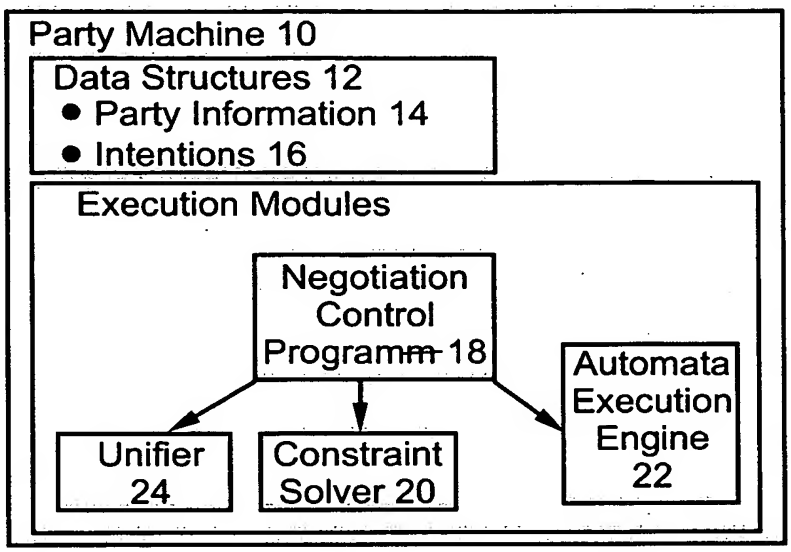


Fig. 10 ~~Party Architecture~~

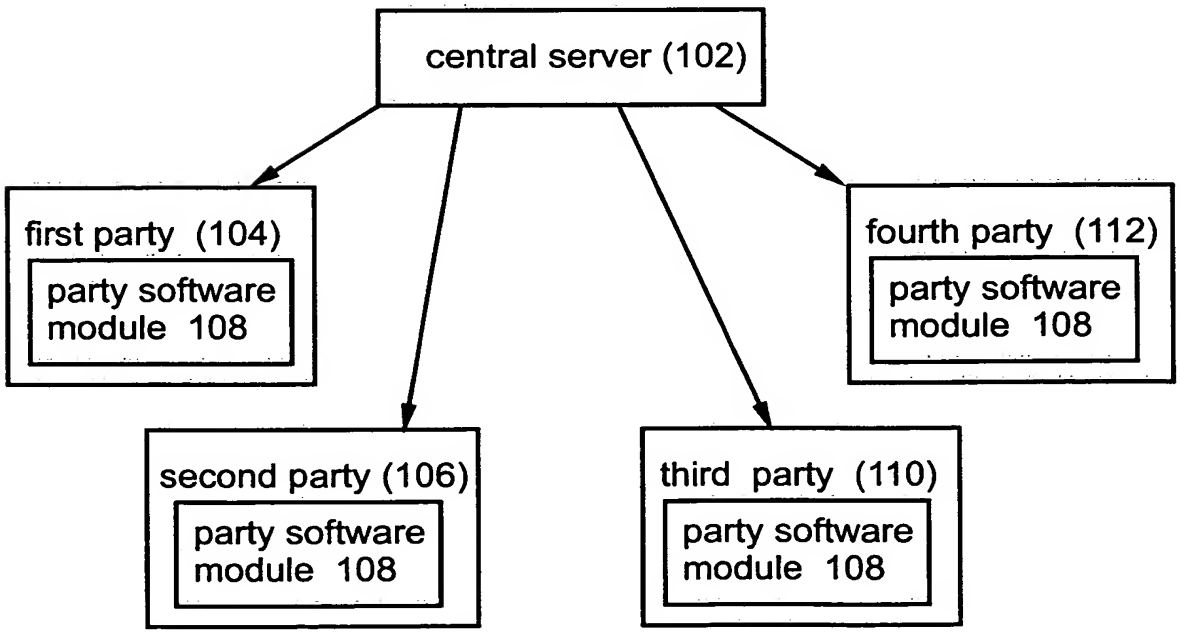


Fig. 11